

REMARKS

Claims 1-10 are pending in the present application. Claims 1-10 have been rejected. Claims 1, 4, and 10 have been amended. No new matter has been introduced by these amendments. Reconsideration and allowance is respectfully requested in view of the amendments and the following remarks.

The 35 U.S.C. § 112, second paragraph rejection

Claim 4 has been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

The Applicant has amended Claim 4 to depend from Claim 2, thus removing the rejection based on antecedent basis. Reconsideration and withdrawal of this rejection is respectfully requested.

The 35 U.S.C. § 102(e) rejection

Claims 1, 3-5, and 10 have been rejected under 35 U.S.C. § 102(e), as being anticipated by Shao (U.S. Patent No. 6,124,194). Applicant respectfully disagrees with the Examiner's contentions.

To anticipate a claim under 35 U.S.C. § 102, a single source must contain all of the elements of the claim. *Lewmar Marine Inc. v. Bariant, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 1007 (1988). Moreover, the single source must disclose all of the claimed elements "arranged as in the claim." *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984).

The Shao et al. reference teaches a method for fabricating an antifuse. Barrier layer 24 lines trench 22 and a first metal 26 is formed in trench 22, filling trench 22 over barrier layer 24. First metal via 26 defines the bottom contact and may comprise tungsten, aluminum, or copper. (Col. 2, lines 59-66) The Shao et al. reference does not teach as recited in amended Claims 1 and 10, "a metal layer disposed under and in physical contact

with said Cu metal layer" and "forming a metal layer under and in physical contact with a lower Cu metal layer planarized with the top surface of a lower insulating layer", respectively. In the Shao et al. reference, a barrier layer 24 is disposed between the first metal 26 and the metal line 12 in trench 22. (Col. 2, lines 59-66)

The Shao et al. reference does not teach each and every element, nor the arrangement of these elements, as recited in the claims. Therefore, the Shao et al. reference does not anticipate the claimed invention.

Additionally, if an independent claim is not anticipated, then any claim depending therefrom is not anticipated. Claim 1 is not anticipated by the prior art, therefore, dependent Claims 2-9 are also not anticipated by the prior art.

Reconsideration and withdrawal of these rejections is respectfully requested.

The 35 U.S.C. § 103(a) rejection

Claims 2, and 6-9 have been rejected under 35 U.S.C. § 103(a), as being unpatentable over Shao et al. (U.S. Patent No. 6,124,194) in view of Yeouchung et al. (U.S. Patent No. 6,001,693). Applicant respectfully disagrees with the Examiner's contentions.

First, if an independent claim is non-obvious under 35 U.S.C. 103, then any claim depending therefrom is non-obvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Claim 1 is non-obvious over the prior art, therefore, dependent Claims 2-9 are also non-obvious over the prior art.

Second, for an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q.

494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

As stated above, the Shao et al. reference teaches a method for fabricating an antifuse. Barrier layer 24 lines trench 22 and a first metal 26 is formed in trench 22, filling trench 22 over barrier layer 24. First metal via 26 defines the bottom contact and may comprise tungsten, aluminum, or copper. (Col. 2, lines 59-66) The Shao et al. reference does not teach as recited in amended Claims 1 and 10, “a metal layer disposed under and in physical contact with said Cu metal layer” and “forming a metal layer under and in physical contact with a lower Cu metal layer planarized with the top surface of a lower insulating layer”, respectively. In the Shao et al. reference, a barrier layer 24 is disposed between the first metal 26 and the metal line 12 in trench 22. (Col. 2, lines 59-66)

The Yeouchung et al. reference teaches a metal to metal antifuse but does not teach as claimed in Claims 1 and 10, “a metal layer disposed under and in physical contact with said Cu metal layer” and “forming a metal layer under and in physical contact with a lower Cu metal layer planarized with the top surface of a lower insulating layer”, respectively.

The Shao et al. reference does not teach all elements recited in the claims. The combination with the Yeouchung et al. reference does not remedy this deficiency. Therefore, the Examiner has failed to make a *prima facie* case of obviousness.

Reconsideration and withdrawal of these rejections is respectfully requested.

Request for Allowance

It is believed that this Amendment places the above-identified patent application into condition for allowance. Accordingly, entry of this Amendment is appropriate and is respectfully requested.

If, in the opinion of the Examiner, an interview would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney at the number indicated below.

Respectfully submitted,
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